



The University of Hong Kong
Technology Transfer Office
香港大學技術轉移處

2023 - 24



From Innovations to Solutions
BIOTECHNOLOGIES

從創新到解決方案

生 物 科 技

About HKU 香港大學

Founded in 1911, The University of Hong Kong (HKU) is the first and oldest institution of higher education in Hong Kong. For over a century, HKU has dedicated itself to creating knowledge, providing education, and serving society. Today, HKU has an established worldwide reputation for being a research-led comprehensive university with ten faculties and a strong commitment to intellectual freedom, liberty and diversity.

香港大學（港大）於一九一一年創校，是香港歷史最悠久的高等學府。港大創校至今逾一世紀，一直致力於創造知識、拓展教育、貢獻社會。今天的港大是一所以研究為主導的世界級綜合大學，校內設有十所學院，以自由、自主精神為學，力倡學術多元化。

4th Quacquarelli Symonds (QS)
Asia University Rankings 2023
2023 年 QS 亞洲大學排名

26th Quacquarelli Symonds (QS)
World University Rankings 2024
2024 年 QS 世界大學排名

1st Times Higher Education World's
Most International Universities 2023
2023 年泰晤士高等教育國際化大學排名

31st Times Higher Education World
University Rankings 2023
2023 年泰晤士高等教育世界大學排名



About TTO 香港大學技術轉移處

The Technology Transfer Office (TTO) manages the use of HKU's intellectual property assets by providing patenting, licensing and other commercialisation support to the University's researchers and inventors. Acting as the bridge linking HKU to society in the area of technology commercialisation, TTO helps industries and businesses access HKU's powerhouse of knowledge, innovation and expertise through close collaboration.

Technology transfer is a core function of HKU's knowledge exchange mission. One of our key roles is to bring the University's inventions and research know-how to everyone through technology transfer so that they can be used for public benefit. We also organise educational events to foster an innovative and entrepreneurial culture. Ultimately, our mission is to create impact through innovation and entrepreneurship.

香港大學技術轉移處負責管理港大知識產權資產的使用，為我們的研究人員提供專利、技術授權及其他有關科研技術商業化的支援。在技術商業化方面，技術轉移處作為港大與社會間之橋樑，始終致力於透過與工商界建立緊密的合作關係，促進港大的科研成果與業界的聯動，進而推動創新科研及技術合作。

知識交流是港大的使命，而技術轉移處是這使命的核心部分。技術轉移處其中一個主要角色是透過技術轉移使港大的發明和研究貢獻社會。本處亦舉辦不同教育活動，以促進創新和創業文化，藉以創造影響力。

1,847

(as of June 2023)
(截至 2023 年 6 月)

Number of active patents and patent applications
有效專利及專利申請數目

150

(as of April 2022)
(截至 2022 年 4 月)

Number of HKU professoriate staff ranked by Clarivate as being among the world's top 1% of scientists (based on the number of citations recorded for their publications)
根據其學術文章獲徵引次數，獲科睿唯安評為世界首 1% 頂級科學家的港大教授人員數目

5

31.3% of total SKLs in Hong Kong
佔全港國家重點實驗室總數 31.3%

Number of State Key Laboratories (SKLs) hosted by HKU
設於香港大學的國家重點實驗室數目

2,058

(2021-22)

Total number of project collaborations on Collaborative Research, Contract Research & Consultancy
協作研究、合約研究及顧問服務合作項目總數





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1. Diagnostics 診斷

Early diagnosis of severe diseases is essential to ensure the most effective and timely treatment. Biomarkers are biological measures that indicate or predict the pathological processes or pharmacological responses to a treatment. A number of gene and protein based biomarkers have already been used in diagnosis. Scientists at HKU are actively identifying new biomarkers and developing novel diagnostic methods for various kinds of diseases such as cancers, diabetes, heart diseases and infectious diseases.

重大疾病的早期診斷十分重要，它能確保患者得到及時有效的治療。生物標記物是病理過程或治療中藥物反應的指標。如今，許多基於基因和蛋白質的生物標記物已在臨床疾病診斷中使用。香港大學的研究人員致力於尋找新的生物標記物和開發各種新型的診斷方法以檢測疾病，例如癌症、糖尿病、心臟疾病和傳染病。

Cancer Biomarkers 癌症生物標記物

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0467	Use of Annexin A3 as a Diagnostic and Prognostic Biomarker and Therapeutic Target for Treating Hepatocellular Carcinoma 膜聯蛋白 A3 作為肝細胞癌 (HCC) 預後的生物標記物和治療靶標	US Patent No. 9,487,831 US Patent No. 10,000,558
IPO0511	Method for Selecting Esophageal Squamous Cell Carcinoma Patients for Chemoradiation 一種 miRNA 標記物、其方法和應用	PRC Application No. 201410436731.0 HK Application No. 16103089.8
IPO0577	The Use of Anti-BQ323636.1 Monoclonal Antibody for Predicting Breast Cancer Patients' Tamoxifen Response Status 作為預測乳腺癌患者對他莫昔芬反應情況的抗體	US Application No. 15/756,824 PRC Application No. 201680051133.9
IPO0950	Nidogen 1 as a Diagnostic Marker and Therapeutic Target of Hepatocellular Carcinoma Nidogen 1 作為肝細胞癌的診斷標誌物和治療靶點	US Application No. 17/237,433
IPO1084	Compositions and Methods for Fast Multiplexed Screening and Monitoring of NPM1 Mutations 用於快速多重篩選和監測 NPM1 突變的組合物和方法	PCT Application No. PCT/CN2022/110519

Cardiac Disease Biomarkers 心臟疾病的生物標記物

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0273	Lipocalin-2 as a Prognostic and Diagnostic Marker for Heart and Stroke Risks 脂籠蛋白 -2 作為心臟和中風風險的預後和診斷標記	US Patent No. 8,030,097
IPO0665	Non-Polyaminated LCN2 as a Biomarker for Diagnosis and Treatment of Cardiometabolic Diseases 非聚氨基脂籠蛋白 -2 作為心臟和代謝疾病的診斷標記物和治療標靶	US Application No. 16/345,432

Diabetes Biomarkers 糖尿病的生物標記物

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0232	Use of Lipocalin-2 as a Diagnostic Marker and Therapeutic Target 脂籠蛋白 -2 作為檢測標記物和治療靶標的用途	US Patent No. 7,645,616 US Patent No. 8,481,032
IPO0517	Methods and Compositions for Use of Neutrophil Elastase and Proteinase 3 as Diagnostic Biomarkers 使用中中性粒細胞彈性蛋白酶和蛋白酶 3 作為診斷標記物的方法和組合物	US Patent No. 9,625,460 PRC Application No. 201580028896.7 EP Patent No. 3149192 Germany Patent No. 3149192 France Patent No. 3149192 UK Patent No. 3149192

Diagnosis of Infectious Diseases 傳染性疾病的診斷

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0256	Hepatitis B Variants with Reduced Sensitivity to Therapeutic Compounds, Their Detection and Uses Thereof 對治療性化合物敏感性降低的乙型肝炎變異株、變異株的檢測及其用途	US Patent No. 9,879,330 PRC Application No. 200980113181.6
IPO0394	Nucleic Acid Aptamers Against Plasmodium Lactate Dehydrogenase and Histidine-rich Protein II and Uses Thereof for Malaria Diagnosis 針對瘧原蟲乳酸脫氫酶的核酸適配體用於瘧疾診斷	US Patent No. 9,000,137 EP Patent No. 2812453 PRC Patent No. ZL201380008737.1 UK Patent No. 2812453 France Patent No. 2812453 Switzerland Patent No. 2812453 Germany Patent No. 2812453 Ireland Patent No. 2812453
IPO0411	A Novel Paramyxovirus and Uses Thereof 新型副粘病毒及其用途	US Patent No. 9,139,620 PRC Patent No. ZL201380006012.9 HK Patent No. 1208495
IPO0608	Compositions and Methods for Detection of Viruses 用於檢測病毒的組合物和方法	ROC Application No. 105113877 PRC Application No. 201680038604.2 US Application No. 15/572,125 HK Application No. 18113176.9
IPO0609	Diagnosis and Treatment of MERS-related Renal Disease MERS 相關腎臟疾病的診治	HK Application No. 18110352.1 PRC Application No. 201680043174.3 US Patent No. 10,782,303
IPO0681	Compositions and Methods for Providing a Prognosis for Influenza Infection 用於提供流感感染預後的組合物和方法	ROC Application No. 106122119 PRC Application No. 201780050956.4 US Application No. 16/312,958 HK Application No. 19127727.6

IPO0791	Fluorescent Turn-on Probes for Detecting Carbapenem Resistant Bacteria 用於檢測碳青霉烯抗性細菌的熒光探針	PCT Application No. PCT/CN2019/106645
IPO0814	Target Capture and Sequencing of Epstein-Barr Virus Genome in Human Saliva for Risk Assessment of Nasopharyngeal Carcinoma 對人唾液中 EBV 病毒基因組的測序和靶標捕獲，用於鼻咽癌的風險評估	US Application No. 16/670,856
IPO0877	Fungal Identification by Image Recognition 通過圖像進行真菌識別	US Application No. 16/830,524
IPO0930	Compositions and Methods for Detecting SARS-CoV-2 用於檢測 SARS-CoV-2 的組合物和方法	US Application No. 17/821,411
IPO0941	Affinity Molecules and Assays for SARS-CoV-2 Nucleocapsid SARS-CoV-2 核衣殼抗原的親和分子和檢測	PCT Application No. PCT/US2021/018862
IPO0947	Identification of nsp1 Gene as the Target of Real-time RT-PCR Using Nanopore Whole Genome Sequencing 使用納米孔全基因組測序鑑定作為實時 RT-PCR 靶標的 nsp1 基因	PCT Application No. PCT/CN2021/084357
IPO0951	Use of SARS-CoV-2 Viral Proteins for Developing Serological Tests of COVID-19 使用 SARS-CoV-2 病毒蛋白進行 COVID-19 血清學檢測	PCT Application No. PCT/CN2021/090684
IPO1011	Molecular Detection of Novel Coronaviruses 新型冠狀病毒的分子檢測	US Application No. 17/545,818

Other Diseases 其他疾病的診斷

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0470	Methods for Classifying Pleural Fluid 將胸膜液分類的方法	US Patent No. 9,675,283 PRC Application No. 201480040465. 8 EP Application No. 14826702.4
IPO0578	Pleural Fluid Markers for Malignant Pleural Effusions 作為惡性胸腔積液的胸膜液標記物	US Patent No. 9,804,162 EP Patent No. 3136100 EP Patent No. 3444614 Germany Patent No. 3136100 UK Patent No. 3136100 France Patent No. 3136100 Switzerland Patent No. 3136100 Germany Patent No. 3444614 France Patent No. 3444614 UK Patent No. 3444614 Switzerland Patent No. 3444614
IPO0802	A Label-free Luminescence Assay for Detection of Amyloid Fibrillation and Plaque Formation and Their Inhibitor Screening Thereof by d8 or d10 Metal Complexes d8 或 d10 金屬配合物用於檢測澱粉樣蛋白纖維化和斑塊形成及其抑制劑篩選	PCT Application No. PCT/CN2019/099143
IPO0816	Amyloid Precursor Protein (APP) and Its Processed Forms as Novel Diagnostic Markers, Prognostic Markers and Therapeutic Targets for Biliary Atresia 澱粉樣蛋白前體蛋白 (APP) 作為膽道閉鎖的新診斷標記物，預後標記物和治療靶點	PCT Application No. PCT/CN2020/071742
IPO1254	Method and System for Determining Risk of Primary Angle Closure and Related Glaucoma from 360° Imaging of Anterior Chamber Angles 根據前房角的 360° 成像確定原发性閉角和相關青光眼風險的方法和系統	US Provisional Application No. 63/373,607

2. Vaccines 疫苗

A vaccine is a biological preparation that improves immunity to a particular disease. Typically, a vaccine contains an agent that resembles a disease-causing microorganism. The vaccine is often made from attenuated or inactivated forms of the pathogen, or segments of its toxin proteins. HKU researchers are developing novel vaccines against coronavirus, HIV, HBV, influenza and others. Several of these inventions have been successfully commercialised.

疫苗是提高免疫力以預防某種特定疾病的生物製劑。典型的疫苗由含有近似於致病微生物的製劑製成，往往是減毒或滅活形式的病原體，或是它的毒素蛋白質片段。香港大學的研究人員已針對冠狀病毒、愛滋病病毒、乙肝病毒和流感病毒等開發新型的疫苗。其中，多個疫苗項目已經成功實現商業化落地。

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0411	A Novel Paramyxovirus and Uses Thereof 新型副粘病毒及其用途	US Patent No. 9,139,620 PRC Patent No. ZL201380006012.9 HK Patent No. 1208495
IPO0508	DNA Motif Compounds and Methods for Inducing Neutralizing Antibodies and Cellular Immunity DNA 結構基序和誘導中和抗體和細胞免疫的及方法	US Patent No. 10,245,313 EP Application No. 15852067.6 PRC Application No. 201580057749.2
IPO0541	Live Attenuated Vaccines for Influenza Viruses 減毒活流感疫苗	US Patent No. 9,827,304 ROC Application No. 105111505 Australia Patent No. 2015345579 India Patent No. 381677 PRC Patent No. ZL201580061643.X EP Patent No. 3218470 HK Application No. 18103889.8
IPO0563	Generation of Live-attenuated Influenza Viruses of Vaccine Applications 減毒活流感疫苗的生產	US Patent No. 10,793,834 EP Application No. 16802593.0 PRC Patent No. ZL201680045600.7
IPO0619	Methods and Compositions for Enhancing Immune Response to Vaccination 用於增強對疫苗接種的免疫反應的方法和組合物	US Patent No. 10,588,903 ROC Application No. 105122118 PRC Application No. 201680053236.9 EP Application No. 16828317.4 US Cont Application No. 16/776,403 HK Application No. 18113764.7
IPO0889	Recombinant Influenza Virus as a Live-attenuated Vaccine 用作減毒活疫苗的重組流感病毒	EP Application No. 21738478.3 PRC Application No. 202180008847.2 US Application No. 17/791,678

IPO1021	A Technology to Comprehensively Define Adaptive Immune Responses at Single Epitope Resolution and at Genomic Scale 一種在單表位分辨率和基因組規模上全面定義適應性免疫反應的技術	PCT Application No. PCT/CN2022/111160
IPO1028	Compositions and Methods for Enhancing Immune Response to Vaccination and Improving Vaccine Production 用於增強對疫苗接種的免疫反應和改善疫苗生產的組合物和方法	ROC Application No. 109100743 US Application No. 16/738,692 PRC Application No. 202080008143.0 EP Application No. 20738702.8
IPO1040	Utilisation of Cardiolipin as Immune Adjuvant 使用心磷脂作為免疫佐劑	US Application No. 17/324,752
IPO1080	Development of Synthetic Pseudaminic Acid-based Antibacterial Vaccines against Acinetobacter Baumannii 針對鮑曼不動桿菌的合成假胺酸抗菌疫苗的開發	PCT Application No. PCT/CN2022/100131
IPO1161	Heterologous Influenza Protection Elicited by an Intradermal Influenza Vaccine Comprising a Rationally Designed Single-round Infectious Virus 由合理設計的單輪傳染性病毒組成的皮內流感疫苗引起的異源流感保護	PCT Application No. PCT/CN2023/073098

3. Therapeutic Biologics 生物製劑

Biological agents (also known as biologics or biopharmaceuticals) are a class of agents based on biological preparations that exhibit a therapeutic or prophylactic effect. Therapeutic biological agents include a large variety of biological substances. Such as peptides, recombinant proteins, recombinant nucleic acids, monoclonal antibodies and large biological molecules. The relevant inventions cover multiple disease areas.

生物製劑（也稱為生物藥物）是一類具有治療或預防作用的生物製品。作用於治療的生物製劑包括各種生物物質，例如肽、重組蛋白、重組核酸、單克隆抗體和生物大分子等等。港大生物製劑相關發明涵蓋多個疾病領域。

Peptide and Proteins 肽和蛋白

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0216	Tumor Suppressor Protein and Nucleotide Encoding Same 腫瘤抑制蛋白及其編碼核苷酸	US Patent No. 7,807,626
IPO0270	Methods and Compositions for Treatment of Endotoxin-mediated Pro-inflammatory Responses 用於治療內毒素介導的促炎反應的整聯蛋白肽、抗-CD18 β A 抗體及用途	US Patent No. 7,960,338 PRC Patent No. ZL200980128192.1
IPO0445	Lamin A, an Activator of Longevity/Anti-aging SIRT1 Protein 長壽 / 防衰老 SIRT1 蛋白的激活劑核纖層蛋白 A	US Patent No. 10,086,039 PRC Patent No. ZL201380070195.0
IPO0775	Nucleic Acid Molecules and Dual-functional Peptides Having Antiviral Activity and Delivery Activity, Compositions and Methods Thereof 具有抗病毒活性和遞送活性的核酸分子和雙功能肽，其組合物和使用方法	EP Application No. 19792753.6 US Application No. 17/049,974 PRC Application No. 201980028519.1
IPO0837	The Natural Bioactive Compound with 30kDa, Isolated from Bitter Melon (<i>Momordica Charantia</i>) Seeds, Functions as an AMPK Activator Governing Glycolysis, Lipid Metabolism and Tumorigenic Capacities in Ovarian Cancers 苦瓜蛋白 MAP30 在製備預防和治療卵巢癌的藥物或化療補充劑中的用途	PRC Application No. 202010143127.4 PRC Application No. 202011409049.4
IPO0937	Compositions of Anti-viral Peptides and Methods of Use Thereof 抗病毒肽的組合物及其使用方法	EP Application No. 21770596.1
IPO0996	Compositions of Anti-viral Peptides and/or Compounds and Methods of Use Thereof 抗病毒肽和 / 或化合物的組合物及其使用方法	PCT Application No. PCT/CN2021/125649

IPO1012	Anti-viral Peptides and Compositions and Methods of Use Thereof 抗病毒肽及其組合物和使用方法	PCT Application No. PCT/CN2022/076453
IPO1154	Antiviral Peptides and Methods of Use Thereof 抗病毒肽及其使用方法	PCT Application No. PCT/CN2022/141996
IPO1212	Novel Immunomodulatory, Neuromodulatory, Osteogenic, and Anti-Osteoporotic HKUOT-S2 Protein that Enhances Bone Fracture Repairs and Suppresses Osteoporosis Development 新型免疫調節、神經調節、成骨和抗骨質疏鬆 HKUOT-S2 蛋白，可增強骨折修復並抑制骨質疏鬆症的發展	US Provisional Application No. 63/371,229

Antibodies, Aptamers and Inhibitory Nucleic Acids 抗體和抑制性的核酸分子

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0232A	Lipocalin-2 Antibodies for Methods of Treatment 脂籠蛋白-2 的抗體和治療的方法	US Patent No. 7,645,616 US Patent No. 8,481,032
IPO0339	Anti-IGF-IR Antibodies and Uses Thereof 抗 IGF-IR 的抗體及其用途	US Patent No. 8,444,982 PRC Patent No. ZL201080054710.2 EP Patent No. 2507263 UK Patent No. 2507263 France Patent No. 2570263 Germany Patent No. 2507263 Switzerland Patent No. 2507263
IPO0347	High-affinity Nucleic Acid Aptamers against Sclerostin Protein 針對硬骨素蛋白質的高親和力核酸適配體	US Patent No. 8,552,166 PRC Patent No. ZL201180025929.4 EP Patent No. 2576786 HK Patent No. HK1180012 UK Patent No. 2576786 France Patent No. 2576786 Germany Patent No. 2576783 Switzerland Patent No. 2576786
IPO0354	Broadly Cross-reactive HIV-1-Specific Antibodies for Prevention and Treatment of HIV 用於 HIV 預防和治療並產生廣泛交叉反應的 HIV-1 特異性抗體	US Patent No. 10,280,213 US Patent No. 11,124,561
IPO0361	GEP and Drug Transporter Regulation, Cancer Therapy and Prognosis GEP 和藥物轉運蛋白的調節，癌症的治療和預後	PRC Patent No. ZL201180034576.4 HK Patent No. HK1179889
IPO0380	The Use of Anti-DKK1 Monoclonal Antibody for Treatment of Liver Cancer 抗 DKK1 單克隆抗體用於治療肝癌的用途	PRC Patent No. ZL201280016543.1 EP Patent No. 2670435 Germany Patent No. 2670435 France Patent No. 2670435 Switzerland Patent No. 2670435 UK Patent No. 2670435
IPO0459	Materials and Methods for Treatment of Liver Cancer 用於治療肝癌的材料和方法	PRC Application No. 201480030759.2
IPO0467A	Use of Annexin A3 as a Diagnostic and Prognostic Biomarker and Therapeutic Target for Treating Hepatocellular Carcinoma 膜聯蛋白 A3 作為肝細胞癌 (HCC) 預後的生物標記物和治療靶標 (用於治療的抗體)	US Patent No. 9,487,831 US Patent No. 10,000,558

IPO0471	Anti-HER2 and Anti-IGF-IR Bi-specific Antibodies and Uses Thereof 抗 HER2 和抗 IGF-IR 的雙特異性抗體及其用途	US Patent No. 9,481,729
IPO0630	BCL3 siRNA Amphiphilic Dendriplexes for Effective and Potent Nasopharyngeal Carcinoma Treatment 能有效治療鼻咽癌的 BCL3 siRNA 兩親性樹枝狀分子複合物	US Patent No. 10,421,968
IPO0905	Utilization of Nuclear P70 S6 Kinase for the Diagnosis, Prognosis and Treatment of Cancer 核 P70 S6 激酶在癌症診斷、預後和治療中的應用	PCT Application No. PCT/CN2021/085641
IPO0950	Nidogen 1 as a Diagnostic Marker and Therapeutic Target of Hepatocellular Carcinoma Nidogen 1 作為肝細胞癌的診斷標誌物和治療靶點	US Application No. 17/237,433
IPO1130	Viral Nucleic Acid Molecules, and Compositions and Methods of Use Thereof 病毒核酸分子及其組合物和使用方法	CN Application No.202211587311.3 US Application No.18/058,169
IPO1167	Neutralizing Antibodies Against COVID-19 and Methods of Use Thereof 針對 COVID-19 的中和抗體及其使用方法	PCT Application No. PCT/CN2022/144066
IPO1186	Neutralizing Antibodies Against COVID-19 and Methods of Use Thereof 針對 COVID-19 的中和抗體及其使用方法	PCT Application No. PCT/CN2022/144066
IPO1207	The Use of S100A10 Antibodies for the Treatment and Diagnosis of Liver Cancer S100A10 抗體在肝癌治療和診斷中的應用	US Provisional Application No. 63/390,453

Immune Cell Related Therapy and Immunotherapy

免疫細胞相關療法以及免疫治療

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0281	Method to Induce and Expand Therapeutic Alloantigen-specific Human Regulatory T Cells in Large-scale 大規模誘導和擴大治療性同種異體抗原 - 特異性的人調節性 T 細胞的方法	US Patent No. 8,658,159 PRC Patent No. ZL200980125228.0 EP Patent No. 2300602 US Patent No. 9,480,715 UK Patent No. 2300602 France Patent No. 2300602 Switzerland Patent No. 2300602 Germany Patent No. 2300602
IPO0501	Human CD8+ Regulatory T Cells Inhibit GVHD and Preserve General Immunity 人 CD8 陽性的調節性 T 細胞抑制 GVHD 和維持整體免疫功能	US Patent No. 10,092,597 US Patent No. 10,653,722
IPO0536	Biophosphonate Compounds and Gamma Delta T Cell-mediated Therapy for Treating Epstein-Barr Virus Associated Disorders 於治療 EBV 病毒相關疾病的生物磷酸鹽化合物和 Gamma Delta T 細胞介導療法	US Patent No. 10,532,064 PRC Patent No. ZL201580055215.6
IPO0729	The MVTT-based Immuno-oncolytic Method to Induce Protective Anti-cancer Immune Responses 基於 MVTT 的免疫溶瘤方法誘導保護性抗癌免疫反應	US Application No. 17/048,297 PRC Application No. 201980027118.4
IPO0892	Methods to Prepare V-T Cells Derived Exosomes for Treatment of Epstein-Barr Virus-associated Cancers 製備用於治療 EBV 病毒相關癌症的 V-T 細胞衍生外泌體的方法	EP Application No. 20875966.2 PRC Application No. 202080072732.5 US Application No. 17/754,992

Stem Cell Related Therapy 幹細胞相關療法

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0817	Method and Usage of in Vivo Expanded Immune Potent iMSCs from Human Derived Mesenchymal Stem Cells 來自人源性間充質乾細胞的體內擴增免疫強 iMSCs 的方法和用途	PRC Application No. 202080083125.9 US Application No. 17/756,711
IPO0825	Treatment of Metachromatic Leukodystrophy Using Stem Cell Gene Therapy 治療異染性腦白質營養不良的幹細胞基因療法	US Application No. 17/434,513 PRC Application No. 202080018533.6
IPO0836	Expanded Potential Stem Cells of Mammals 哺乳動物全能幹細胞	EP Application No. 20781782.6 US Application No. 17/435,943 Japan Application No. 2021-558867 PRC Application No. 202080036558.9
IPO0864	Adiponectin-expressing Thymocytes for Metabolic Regulation and Cancer Treatment 用於代謝調節和癌症治療的表達脂聯素的胸腺細胞	US Application No. 16/864,774
IPO1094	Compositions and Methods for Improved Mesenchymal Stem Cell Therapy 用於改善間充質乾細胞療法的組合物和方法	US Application No. 18/063,604
IPO1187	A New Method for Screening Endometrial Mesenchymal Stem Cells Using Leptin Receptor 一種利用瘦素受體篩選子宮內膜間充質乾細胞的新方法	PRC Application No. 202210717776.X

Therapeutic Bacteria and Others 治療性細菌及其他

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0466	Therapeutic Delivery and Expression System, Methods and Uses Thereof 治療性傳遞和表達系統及其用途	US Patent No. 10,987,432
IPO1037	Fecal Microbial Biomarkers for Non Alcoholic Fatty Liver Disease 非酒精性脂肪肝的糞便微生物生物標誌物	US Application No. 17/716,619

4. Therapeutic Small Molecules 治療用小分子化合物

A therapeutic small molecule is a low molecular weight (usually smaller than 900 daltons) organic compound that can be used as a starting point for developing of new drugs. Small molecules have intrinsic advantages as the methods of preparation are relatively and cost-effective. HKU researchers have developed a number of new compounds that have potent effect against tumour cells or pathogen infections.

治療用小分子是一種低分子量 (通常小於 900 道爾頓) 的有機化合物，是可用於開發新藥物的先導化合物。小分子製造的方法簡單，因此低成本高效益。香港大學的研究人員已經研發出一些具有較強抗腫瘤作用或抗病原體感染的新化合物。

Oncology 癌症治療

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0231A	Method for Treating Cancer Using Oral Arsenic Trioxide 一種口服三氧化二砷治療癌症的方法	US Patent No. 8,906,422
IPO0237	Anti-cancer Phosphine Containing [AuIII(CNC)mL]n+ Complexes and Derivatives Thereof and Methods for Treating Cancer Using Such Compositions 含有 [AuIII(CNC)mL]n+ 絡合物的抗癌磷化氫及其衍生物以及使用其治療癌症的方法	US Patent No. 7,632,827
IPO0330	Hydroxy-substituted Gold (III) Porphyrin Complexes as Histone Deacetylase Inhibitors 作為組蛋白脫乙酰酶抑制劑的羥基取代的金 (III) 卟啉絡合物	US Patent No. 8,563,712 PRC Patent No. ZL201080049811.0 EP Patent No. 2493897 UK Patent No. 2493897 France Patent No. 2493897 Germany Patent No. 2493897 Switzerland Patent No. 2493897
IPO0331	Pharmaceutical Composition Containing Cyclometalated N-Heterocyclic Carbene Complexes for Cancer Treatment 用於治療癌症的含有環金屬 N-雜環卡賓絡合物的藥物組合物	US Patent No. 8,530,659 PRC Patent No. ZL201080049820.X EP Patent No. 2493896 US Patent No. 9,822,139 Germany Patent No. 2493896 France Patent No. 2493896 UK Patent No. 2493896 Switzerland Patent No. 2493896
IPO0346	Nitridoosmium (VI) Complexes for Treatment of Cancer 用於治療癌症的次氮銱 (VI) 絡合物	US Patent No. 8,383,673

IPO0441	A Method of Using Binuclear Gold (I) Compounds for Cancer Treatment 一種利用雙核金 (I) 化合物治療癌症的方法	US Patent No. 9,238,659 EP Patent No. 2920187 PRC Patent No. ZL201380060376.5 Switzerland Patent No. 2920187 UK Patent No. 2920187 France Patent No. 2920187 Germany Patent No. 2920187
IPO0451	Novel Gold (III) Complexes Containing N-Heterocyclic Carbene Ligand, Synthesis and Their Applications in Cancer Treatment and Thiol Detection 新的含 N- 雜環碳烯配體的金 (III) 的絡合物、合成及其在癌症治療和硫醇檢測中的應用	US Patent No. 8,828,984 EP Patent No. 2920186 PRC Patent No. ZL201380060393.9 Switzerland Patent No. 2920186 Germany Patent No. 2920186 France Patent No. 2920186 UK Patent No. 2920186
IPO0552	Bismuth Complexes as Adjuvants of Cisplatin for Cancer Treatment 作為癌症治療中順鉑佐劑的鉍絡合物	US Application No. 15/210,019 PRC Application No. 201680041880.4 EP Application No. 16823909.3 (UK)
IPO0591	A Method of Using Gold (III) Porphyrin-Poly(Ethylene Glycol) Conjugates for Anti-cancer Purposes 使用金 (III) 卟啉 - 聚乙二醇結合物抗癌症的方法	US Patent No. 11,135,310 EP Patent No. 3386986 PRC Patent No. ZL201680081386.0 UK Patent No. 3386986 Germany Patent No. 3386986 France Patent No. 3386986
IPO0631	Platinum Complexes and Methods of Use Thereof 鉑化合物及其使用方法	PRC Patent No. ZL201780049195.0
IPO0634	Anti-cancer Diphosphine Containing [IR111(Diphosphine)(C ^N N) ₂] ⁺ Complexes and Derivatives Thereof and Methods for Treating Cancer Using Such Compositions 含有 [IR111(Diphosphine)(C ^N N) ₂] ⁺ 複合物及其衍生物治療癌症的方法	PRC Patent No. ZL201780081120.0
IPO0635	Palladium (II) Complexes Containing N-Heterocyclic Carbene Ligand, Synthesis, and Applications in Cancer Treatment 含有 N- 雜環卡賓配體的鈀 (II) 絡合物、其合成方法以及治療癌症的應用	PRC Patent No. ZL201780049254.4
IPO0700	The Use of Ivabradine for the Treatment of Triple Negative Breast Cancer 使用 HCN 抑制劑治療癌症	EP Application No. 18791516.0 US Application No. 16/607,035
IPO0703	Erianin Compounds for Cancer Treatment 毛蘭素衍生物及毛蘭素衍生物的使用方法	PRC Application No. 201880049806.6
IPO0706	Chemical Inhibitors of YEATS Domains YEATS 抑制劑及其使用方法	EP Application No. 18880889.3 US Application No. 16/767,434 Japan Application No. 2020-528873 PRC Application No. 201880076657.2
IPO0793	Iridium (III) Bis N-Heterocyclic Carbene Complexes Displaying Potent Anti-tumour Activities Under Light Irradiation Conditions 含有 N- 雜環卡賓配體的銱 (III) 配合物、其合成及其在癌症治療中的用途	US Patent No. 11,286,271 PRC Application No. 201980062708.0
IPO0914	Genetically Encoded YEATS Domain Inhibitor 基因編碼的 YEATS 域抑制劑	PCT Application No. PCT/CN2021/108680
IPO1046	Inhibition of Macropinocytosis Provides a Synergistic Strategy for Improved Photodynamic Therapy 抑制巨胞飲作用為改善光動力療法提供了協同策略	PCT Application No. PCT/CN2022/092398

IPO1066	Compositions and Methods for Optochemical Control of mTOR Signaling and mTOR-Dependent Autophagy 用於光化學控制 mTOR 信號傳導和 mTOR 依賴性自噬的組合物和方法	US Application No. 17/850,720 PRC Application No. 202210749138.6
IPO1115	Photocleavable Prodrug-based Nanomedicine for In-situ Monitorable Cancer Therapy 用於原位可監測癌症治療的基於光切割產品的納米藥物	PCT Application No. PCT/CN2022/124524
IPO1120	Discovery of YEATS2 YEATS Domain Inhibitors as Novel Anti-cancer Agents YEATS2 YEATS 域抑制劑作為新型抗癌劑	US Provisional Application No. 63/269,511
IPO1133	Methods of Synthesis and Uses of Agrimol Compounds Agrimol 化合物的合成方法及用途	US Provisional Application No. 63/312,755
IPO1181	Ifenprodil as an Adjunct for Treatment of Liver Cancer 艾芬地爾作為輔助治療肝癌	US Application No. 17/735,271
IPO1191	Synthesis and Uses of Ginsenoside Compound K Derivatives 人參皂苷類化合物 K 衍生物的合成及用途	US Provisional Application No. 63/365,528

Cardiovascular Diseases 心血管相關疾病治療

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0776	Compositions of Toll-like Receptor 5 (TLR5) Agonist and Methods of Use Thereof Toll 樣受體 5 (TLR5) 激動劑的組合物及其使用方法	US Application No. 16/414,566
IPO0792	A Novel Polyphenol Derivative Compound 6-C-(E-phenylethenyl)-naringenin (6-CEPN) as Therapeutic Agent for Acute Ischemic Stroke 多酚衍生化合物 6-CEPN 作為急性缺血性卒中的治療藥物	PRC Application No. 201910852701.0

Antibiotics and Antifungals 抗生素和抗真菌藥

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0412	Antifungal Compound and Uses Thereof 抗真菌化合物及其用途	US Patent No. 9,642,829
IPO0482	Daptomycin Analogues and a Method for the Preparation of Daptomycin or a Daptomycin Analogue 達托霉素類似物 and 一種製備達托霉素及其類似物的方法	US Patent No. 10,377,699
IPO0603	Bismuth Complexes Overcome Metallo- β -lactamases-caused Antibiotic Resistance 鉍 (III) 化合物及其使用方法	US Patent No. 10,201,518 US Patent No. 10,624,871 PRC Patent No. ZL201780059904.3
IPO0761	Novel Antibiotics and Methods of Using Them 新型抗生素及其使用方法	US Application No. 16/958,028 Japan Application No. 2020-537008 PRC Application No. 201880090658.2 EP Application No. 18898907.3
IPO0856	Silver/gold-based Antibiotic Compositions against Bacterial Pathogens Carrying Mobile Colistin Resistant Genes 針對攜帶移動粘菌素抗性基因的細菌病原體的銀 / 金抗生素組合物	US Application No. 17/632,242 PRC Application No. 202080059304.9
IPO0888	Mycolytransferase as Potential Target for Treatment of Tsukamurella Keratitis 治療塚村菌角膜炎的潛在靶點	US Application No. 17/108,060
IPO0931	Calcium Dependent Cyclic Peptide Antibiotics for Treatment of Bacterial Diseases 用於治療細菌性疾病的鈣依賴性環肽抗生素	US Application No. 17/220,177 PRC Application No. 202110399977.5
IPO1080	Development of Synthetic Pseudaminic Acid-based Antibacterial Vaccines Against Acinetobacter Baumannii 針對鮑曼不動桿菌的合成假單胺酸抗菌疫苗的開發	PCT Application No. PCT/CN2022/100131

Anti-viral Compounds 抗病毒化合物

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0204	Pharmaceutical Composition Having a Ruthenium Oxalato Compound and Method of Using the Same 含有草酸根合鈦化合物的藥物組合物及其使用方法	US Patent No. 7,648,977 PRC Patent No. ZL200680039799.9 EP Patent No. 1940385 UK Patent No. 1940385 France Patent No. 1940385 Germany Patent No. 1940385 Switzerland Patent No. 1940385
IPO0323	Anti-viral Compounds 抗病毒化合物	US Patent No. 8,742,156 Canada Application No. 2,845,241
IPO0473	Use of Isoflavones for the Treatment of Retroviral Infection 用於治療逆轉錄病毒感染的異黃酮素	PRC Patent No. ZL201480068689.X EP Patent No. 3082799 UK Patent No. 3082799 France Patent No. 3082799 Germany Patent No. 3082799
IPO0695	Compositions and Methods for Treatment of Enterovirus Infection 用於治療腸道病毒感染的組合物和方法	US Application No. 16/333,114 EP Application No. 17851466.7 PRC Application No. 201780069748.9 HK Application No. 62020005870.4

IPO0960	Compositions and Methods for Treating a SARS-COV-2 Infection 用於治療新冠病毒感染的組合物和方法	PRC Application No.202180039588.X US Application No. 18/000,491
IPO0962	Compositions and Methods for Broad Spectrum Anti-viral Therapy 用於廣譜抗病毒治療的組合物和方法	PRC Application No. 202180034925.6
IPO1122	Aerosolized Vitamin A for Management of COVID-19-related Olfactory Dysfunction 用於治療 COVID-19 相關嗅覺功能障礙的霧化維生素 A	PCT Application No. PCT/CN2022/124652
IPO1125	23-O-Acetylalisol B as Novel Therapeutic Agent for Coronavirus Induced Severe Acute Respiratory Syndrome 23-O-Acetylalisol B 作為冠狀病毒引起的嚴重急性呼吸綜合徵的新型治療劑	US Application no. 17/936,179 PRC Application no. 202211191318.3
IPO1152	Method of Preparation and Uses of Benzothiazole 苯并噻唑類化合物、其製備方法及應用	CN Application No. 202210179949.7
IPO1211	Caspase Inhibition as an Antiviral Strategy Against Coronaviruses 半胱天冬酶抑制作為抗冠狀病毒的策略	US Provisional Application No. 63/389,693

Other Diseases 其他疾病治療

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0233	Synthetic Ion Channels 合成離子通道	US Patent No. 8,378,138 PRC Patent No. ZL200780051510.X EP Patent No. 2114870 Japan Patent No. 5586961 US Patent No. 9,162,977 UK Patent No. 2114870
IPO0277	Method of Modulating Membrane Potential of a Cell 使用自組裝化合物調節細胞膜的膜電位的方法	US Patent No. 9,610,263 PRC Patent No. ZL200880127474.5 EP Patent No. 2231137 UK Patent No. 2231137 France Patent No. 2231137 Germany Patent No. 2231137 Switzerland Patent No. 2231137
IPO0315	The Use of Arsenic Trioxide to Suppress Rheumatoid Arthritis Activity 三氧化二砷抑制類風濕性關節炎活動的用途	US Patent No. 10,092,595 EP Patent No. 2432480 Japan Patent No. 6049455 PRC Div Application No. 201510114235.8 Japan Div Application No. 2016-159143 US Application No. 16/110,607 UK Patent No. 2432480 Germany Patent No. 2432480 France Patent No. 2432480
IPO0520	Preparation of Novel Neuroprotective and Neurorestorative Caffeic Acid Propargyl Amide (CAPA) and the Use as a Treatment for Neurodegenerative Diseases including Parkinson's Disease (PD) 新型的具有神經保護和修復作用的 N- 炔丙基咖啡酰胺 (PACA) 及其用於治療神經退行性疾病的用途	PRC Patent No. ZL201680031130.9 US Patent No. 10,259,777
IPO0680	Treatment of Skeletal Disorders 骨骼相關疾病的治療	US Application No. 16/335,395 PRC Application No. 201780058349.2

IPO0843	Ortho-phthalaldehyde Containing Linkers and Use for Preparation of Antibody-drug Conjugate 用於製備抗體-藥物複合體的含鄰苯二甲醛的鏈接子	PRC Application No. 201980076936.3 US Application No. 17/296,088 EP Application No. 19887512.2
IPO1032	Adiponectin Glycopeptides and Compositions and Methods of Use Thereof 用於治療脂聯素缺乏相關疾病的藥物	PCT Application No. PCT/IB2021/053309
IPO1041	MRGPRX2 Antagonist for the Treatment of Pseudo Allergic Reactions 用於治療假性過敏反應的 MRGPRX2 拮抗劑	US Application No. 17/334,872 PRC Application No. 202210608467.9
IPO1047	Targeting Pax6 Pathway Linking between Amyloid β Plaques and Neurofibrillary Tangles by Using Palbociclib and Apigenin in Alzheimer's Disease Mouse 在阿爾茨海默病小鼠中使用 Palbociclib 和芹菜素靶向連接澱粉樣蛋白 β 斑塊和神經原纖維纏結的 Pax6 通路	PCT Application No. PCT/CN2022/094180
IPO1075	Development of ROS-responsive Captopril-cinnamaldehyde Prodrug ROS 響應的卡托普利肉桂醛前藥的開發	PCT Application No. PCT/CN2022/104160
IPO1077	Application of a Composition in the Preparation of Medicines for Preventing, Relieving and Treating Diseases (Sjögren's Syndrome) 一種組合物在製備預防、緩解、治療疾病方面的藥物中的應用 (乾燥症)	PRC Application No. 202110406916.7 PCT Application No. PCT/CN2022/086850
IPO1091	Photoactivatable Prodrug Nanoparticles for Combined Anti-angiogenesis and Photodynamic Therapy 用於聯合抗血管生成和光動力治療的光活化前藥納米粒子	PCT Application No. PCT/CN2022/107621
IPO1185	Novel Cocrystals of Dexamethasone 地塞米鬆的新型共晶體	US Provisional Application No. 63/365,396

5. Drug Delivery 藥物遞送

HKU has several inventions related to targeted drug delivery, triggered drug release systems and novel strategies for enhancing bioavailability.

香港大學擁有多項關於靶向藥物遞送，刺激相應性釋藥系統以及提高生物利用度的新發明。

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0240	Collagen-based Microspheres and Methods for Preparation and Use Thereof 基於膠原蛋白的微球及其製備方法和使用方法	US Patent No. 7,931,918 PRC Patent No. ZL200880106169.8 EP Patent No. 2175978 Netherlands Patent No. 2175978
IPO0562	Hypromellose-graft-chitosan and the Synthetic Method Thereof for Sustained Drug Delivery 羧丙甲纖維素-接枝-殼聚糖及其用於持續給藥的合成方法	US Patent No. 9,867,787 EP Patent No. 3288544 PRC Patent No. ZL201680036999.2 Germany Patent No. 3288544 UK Patent No. 3288544
IPO0795	Phototriggered Drug Release Based on Triplet-triplet Energy Transfer with Light Excitation at Long Wavelengths 基於長波長光激發的三重態-三重態能量轉移的光觸發藥物釋放	US Application No. 17/262,452 PRC Application No. 201980054786.6
IPO0852	Inhaled Powder Formulation of mRNA Therapeutics mRNA 療法的吸入粉末製劑	EP Application No. 20837671.5 US Application No. 17,625/212 PRC Application No. 202080049243.8
IPO0900	Nanocarriers Self-assembled from Photoresponsive Three-legged Molecules for Controlled Drug Release 用於控制藥物釋放的光響應三足分子自組裝納米載體	US Application no. 17/904,833 EP Application no. No.21793651.7 CN Application no. 202180029535X
IPO0908	Novel Microneedle Array Loaded with Anti-PD-1-cisplatin-nanoparticles for Synergistic Cancer Immuno-chemotherapy 載有抗 PD-1-順鉑-納米顆粒的新型微針陣列用於協同癌症免疫化療	US Application No. 17/155,251 PRC Application No. 202110477993.1

IPO0991	Inhaled Powder Formulation of Antigen-binding Fragment (Fab) 抗原結合片段 (Fab) 的吸入粉末製劑	PCT Application No. PCT/CN2021/132924
IPO1064	A Photoresponsive Protein Delivery System Based on a Modified PAMAM and Methods Thereof 一種基於修飾 PAMAM 的光響應蛋白遞送系統及其方法	PCT Application No. PCT/CN2022/097804
IPO1067	Dry Powder Formulation of Tamibarotene for Pulmonary and Intranasal Delivery 用於肺部和鼻內給藥的他米巴羅汀乾粉製劑	US Application No. 17/743,271 PRC Application No. 2022105319075
IPO1108	Dual Targeting Powder Formulation for Nasal and Lung Deposition through Single Intranasal Administration 通過單次鼻內給藥用於鼻和肺沉積的雙重靶向粉末製劑	PCT Application No. PCT/CN2023/073248

6. Chinese Medicine and Natural Extracts 中藥及天然提取物

Chinese medicines and natural products are a rich resource for drug development. HKU offers a number of inventions based on the use of natural extracts in treating cancer, lung diseases, retinopathy and Alzheimer's disease.

中草藥和天然產物為藥物的開發提供豐富的資源。香港大學擁有數項關於使用天然提取物治療癌症、肺病、眼病以及老年癡呆的發明。

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0355	The New Use of <i>Coptidis Rhizoma</i> Total Alkaloids 黃連總生物碱提取物的新用途	PRC Patent No. ZL201010246367.3
IPO0587	New Application for Coptis and Its Total Alkaloids in Treating Diabetic Retinopathy 預防或治療糖尿病眼病的複方組合物、其製備方法和用途	PRC Application No. 201610537193.3
IPO0799	Extract from Radix Rehmanniae as Therapeutic Agent for Multiple Sclerosis 生地黃提取物治療多發性硬化症	PRC Application No. 201910619330.1
IPO0932	Preparation of Extracts and Bioactive Compounds from Ginger and Its Application in Diabetic Retinopathy 生薑提取物及生物活性化合物的製備及其在糖尿病視網膜病變中的應用	PRC Application No. 202010673178.8
IPO0939	A Preparation Method and Application of Active Components of <i>Spatholobus Suberectus</i> Having Anti-tumor, Prevention of Recurrence and Metastasis, Synergism and Reduction of Chemotherapy Resistance 具有抗腫瘤、預防復發與轉移以及增效，減少化療耐藥的雞血藤活性部位及其製備方法及應用	PRC Application No. 202010607628.3
IPO1139	A Traditional Chinese Medicine Composition for the Treatment of Alzheimer's Disease, Preparation Method and Application Thereof 一種治療阿爾茨海默病的中藥組合物及其製備方法和應用	PRC Application No. 202111645937.0

7. Medical Devices 醫療器械

Medical devices include instruments, apparatuses, implements and implants that can be used in diagnostics, treatment or prevention of diseases or other conditions. HKU researchers have developed medical devices for research and clinical use with different applications.

醫療器械通常包括用於診斷、治療和預防疾病以及其他症狀的各種儀器、裝置、器具以及植入物等。香港大學的研究人員研發了一系列具有不同科研和臨床用途的醫療器械。

Apparatus and Implement 裝置和器具

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0209	Shape Memory Locking Device for Orthopedic Implants 用於整形外科植入物的形狀記憶鎖緊裝置	US Patent No. 8,444,682 PRC Patent No. ZL200780033640.0 EP Application No. 07816327.6 HK Patent No. HK1135008
IPO0305	Antibacterial Surface and Method of Fabrication 抗菌表面和製造方法	PRC Patent No. ZL201080008828.1 EP Patent No. 2398517 France Patent No. 2398517 Germany Patent No. 2398517 UK Patent No. 2398517 Switzerland Patent No. 2398517
IPO0454	Ophthalmological Rinsing Agent and Methods Thereof 眼科清洗劑及其方法	US Application No. 14/264,869 EP Application No. 14795179.2 PRC Patent No. ZL201480026555.1
IPO0512	Multi-mode Probe Device 多模態探頭	PRC Patent No. ZL201420411961.7 HKST Patent No. HK1195703
IPO0615	Novel Use of Cubic Corner as a Stereotactic Surgical Registration and Guidance with Automatic Registration 立方角作為立體定向手術配準和自動配準引導的新用途	PRC Application No. 201780087268.5
IPO0617	Rapid and Precise Manipulation of Tiny Volume of Liquid Droplets 可以快速和精準的控制納升級別液滴的方法	US Patent No. 10,365,187
IPO0656	Toothbrush 牙刷	PRC Application No. 201880010233.6 EP Application No. 18748339.1 US Application No. 16/483,324
IPO0666	3D Printing in Oral Cavity 用於口腔的 3D 打印技術	PCT Application No. PCT/CN2020/073738

IPO0697	Surgical Extraction Device for Bone Implant Polymer Tips 用於骨植入物的手術提取裝置	US Patent No. US 10,966,842 PRC Application No. 201810768342.6
IPO0708	Sensors with Gradient Nanostructures and Associated Method of Use 具有梯度納米結構的傳感器和相關的使用方法	US Application No. 16/618,536 PRC Application No. 201880036490.7
IPO0711	Portable Transcranial Direct Current Stimulation (tDCS) System with Removable Dry Electrode for Pain Management 一種用於疼痛治療的可攜式經顱直流電刺激系統	PRC Application No. 201710640024.7 PRC Patent No. ZL201720941066.X
IPO0731	Paper-based Aluminum-air Batteries and Battery Packs for Portable Applications 基於紙張的鋁空氣電池和用於便攜式應用的電池組	PCT Application No. PCT/CN2018/118428
IPO0737	System and Method for Ultrafast Ultrasound Imaging 用於超快超聲成像的系統和方法	US Application No. 16/767,009
IPO0744	MRI Tracking Device Design, Fabrication, and Methods of Use for MRI-guided Robotic System MRI 跟踪裝置設計、製造和 MRI 引導機器人系統的使用方法	US Application No. 16/965,888 EP Application No. 19764344.8 PRC Application No. 201980015259.4
IPO0745	Robotic Stereotactic System for MRI-guided Neurosurgery 用於 MRI 引導的神經外科手術的機器人立體定向系統	US Application No. 16/955,364 PRC Application No. 201980010511.2 EP Application No. 19743404.6
IPO0765	Soft Robotic Glove for Rehabilitation 氣體驅動的用於手部康復的可穿戴軟機器人手套	PRC Application No. 201980029359.2 HK Application No. 62021024431.0
IPO0784	Next-generation High Throughput Diagnostics-on-a-chip System Based on Droplet Microfluidics 基於液滴微流體的下一代高通量診斷系統	PRC Application No. 201980052964.1
IPO0796	Real-time FBG-based Surface Shape Sensor Design, Fabrication and Methods of Use for Surface Measurement of Flexible Structures 基於實時 FBG 的表面形狀傳感器設計、製造和用於柔性結構表面測量的方法	US Application No. 16/449,063 PRC Application No. 201910552110.1
IPO0819	Apparatus and Method for Fast Volumetric Fluorescence Microscopy Using Temporally Multiplexed Light Sheets 使用時間多路復用光片的快速體積熒光顯微鏡裝置和方法	Japan Application No. 2021-517034 US Application No. 17/267,567 Germany Application No. 11 2019 004 851.1 PRC Application No. 201980063492.X
IPO0826	Novel Energy Resolved X-ray Semiconductor Detectors 新型能量分辨 X 射線半導體探測器	PCT Application No. PCT/CN2020/073748
IPO0850	A Novel Thread Design for Bone Screw 一種新型接骨螺釘螺紋設計	PCT Application No. PCT/CN2020/089350
IPO0851	A Motor-driven Fixator to Apply Micromotion to Fracture Site to Accelerate Bone Healing 一種電機驅動的固定器，用於將微動應用於骨折部位以加速骨癒合	PCT Application No. PCT/CN2020/135629
IPO0907	Enhanced Controllability of Fries Rearrangements Using High-resolution 3D-printed Metal Microreactor with Circular Channel 使用具有圓形通道的高分辨率 3D 打印金屬微反應器增強弗里重排反應的可控性	KOR Application No. 10-2020-0094380

IPO0958	Methods for Automated Quantitative Assessment of Retinal Microvasculature Using Optical Coherence Tomography Angiography (OCTA) Images in a Cloud System 利用光學相關層析血管造影 (OCTA) 圖像在雲系統中自動定量評估視網膜微血管系統的方法	PCT Application No. PCT/CN2021/112735
IPO0975	Multiphoton High-throughput Screening of Multiplex Cell Niche Factors-biochips, Methods and Preparation and Applications 多種細胞生態位因子的多光子高通量篩選 - 生物芯片、方法、製備及應用	PCT Application No. PCT/CN2022/075402
IPO0978	Method for Decoding Chord Information from Brain Activity 從大腦活動中解碼和弦信息的方法	US Application No. 17/485,545 PRC Application No. 202111255701.6
IPO0994	Surgical Instrument with Flexible Steerable Segment 具有靈活可轉向段的手術器械	PCT Application No. PCT/CN2022/073108
IPO1011	Molecular Detection of Novel Coronaviruses 新型冠狀病毒的分子檢測	US Application No. 17/545,818
IPO1018	A Soft Exoskeleton Wearable Device for Temporomandibular Disorder (TMD) Rehabilitation 一種用於顫下頷關節紊亂症 (TMD) 康復的軟外骨骼可穿戴設備	US Application No. 17/687,717 PRC Application No. 202210260970.X
IPO1027	Mask Designs with Extra-ordinary Breathability, Speech Intelligibility and Transparency 具有非凡透氣性、語音清晰度和透明度的口罩設計	PRC Application No. 202120485601.1 HK Application No. 32021028826.4
IPO1030	A Robotic Platform to Navigate MRI-guided Focused Ultrasound System 用於導航 MRI 引導的聚焦超聲系統的機器人平台	PCT Application No. PCT/CN2022/079908
IPO1055	Non-contact, Non-radiation Device that Accurately Locates Multiple Implants in a Patient's Body 一種可準確定位患者體內的多個植入物的非接觸式、非輻射裝置	PCT Application No. PCT/CN2022/108627
IPO1061	Fall Risk Assessment Device 跌倒風險評估裝置	PCT Application No. PCT/CN2022/098354
IPO1073	Smart Walker for the Elderly 長者智能助行器	US Application No. 17/832,314 HK Short Term Application No. 32022053795.7 CN UM Application No. 202221236956.8

Implant 植入物

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0207	Bioengineered Intervertebral Discs and Methods for Their Preparation 生物工程化的椎間盤及其製備方法	US Patent No. 8,734,827 PRC Patent No. ZL200780022790.1 EP Patent No. 2019653 UK Patent No. 2019653 Germany Patent No. 2019653 Switzerland Patent No. 2019653 France Patent No. 2019653
IPO0218	Intervertebral Disc Transplant and Implantation Method 椎間盤移植和移植方法	US Patent No. 8,048,618 PRC Patent No. ZL200780028211.4
IPO0263	Implant for Tissue Engineering 用於組織工程的植入體	US Patent No. 8,172,908 EP Patent No. 2229189 US Patent No. 9,072,810 UK Patent No. 2229189
IPO0305	Antibacterial Surface and Method of Fabrication 外科手術植入物和製造方法	PRC Patent No. ZL201080008828.1 EP Patent No. 2398517 France Patent No. 2398517 Germany Patent No. 2398517 UK Patent No. 2398517 Switzerland Patent No. 2398517
IPO0992	Development of a Novel Fibula Malleolus Cap: The Last Piece of the Puzzle in Computer-assisted Jaw Reconstruction 新型腓骨踝關節帽的開發	US Application No. 17/729,584 EP Application No. EP22169866.5 CN Application No. 2022104473992 HK Short Term Application No. 32022052445.0
IPO1054	Bioengineered Dermal Papilla and Hair Follicles Products, Methods and Applications 生物工程的毛乳頭和毛囊產品、方法和應用	PCT Application No. PCT/CN2022/095588
IPO1235	3-dimensional Printing of Metal-embedded Medical Implants and Appliances 3D 打印的金屬嵌入醫療植入物和器具	US Provisional Application No.63/381,626

Materials for Medical Use 具有醫療用途的新材料

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPOO213	Cell-matrix Microspheres, Methods for Preparation and Applications 細胞-基質微球，製備方法和應用	US Patent No. 8,679,809 PRC Patent No. ZL200780018296.8 EP Application No. 07872058.8 US Patent No. 9,464,271
IPOO240	Collagen-based Microspheres and Methods for Preparation and Use Thereof 基於膠原的微球及其製備方法和用途	US Patent No. 7,931,918 PRC Patent No. ZL200880106169.8 EP Patent No. 2175978 Netherlands Patent No. 2175978
IPOO303	Polymeric Based and Surface Treated Metallic Hybrid Materials and Methods to Fabricate 聚合物基和表面處理的金屬雜化材料及其製作方法	PRC Patent No. ZL201080032359.7 EP Patent No. 2453935 UK Patent No. 2453935 Switzerland Patent No. 2453935 US Application No. 16/119,633
IPOO328	Compositions and Methods for Controlling Proliferation and Differentiation of Cells 控制細胞增殖和分化的組合物和方法	US Patent No. 9,084,752
IPOO329	Nano Cancer Barrier Device (NCBD) to Immobilize and Inhibit the Division of Metastatic Cancer Stem Cells 用於固定和抑制轉移性癌幹細胞分裂的納米材料	US Patent No. 9,439,941
IPOO349	Methods to Enhance Cell Migration and Engraftment 增強細胞遷移和移植的方法	US Patent No. 9,096,831
IPOO362	Methods for Complex Tissue Engineering 用於複雜組織工程化的方法	US Application No. 13/159,837 PRC Patent No. ZL201180029477.7 EP Patent No. 2582410 HK Patent No. 1180253 EP Div Patent No. 3025735 France Patent No. 2582410 Switzerland Patent No. 2582410 Germany Patent No. 2582410 UK Patent No. 2582410 France Patent No. 3025735 Germany Patent No. 3025735 UK Patent No. 3025735
IPOO413	System for Generation of All-aqueous Emulsions 用於產生全水乳液的系統	US Patent No. 10,080,997 EP Application No. 13760719.8 PRC Application No. 201380014220.3 US Application No. 16/109,626 PRC Application No. 202010205853.4
IPOO438	Materials and Methods for Filling Biological Cavities and Preventing Leakage of Injected Therapeutic Agents 用於填充生物腔並防止注射的治療劑洩漏的材料與方法	US Patent No. 9,307,968 PRC Patent No. ZL201380020022.8 EP Application No. 13803422.8
IPOO478	Materials and Methods for Filling Biological Cavities and Preventing Leakage of Injected Therapeutic Agents 填充生物腔和防止注射治療劑洩漏的材料和方法	US Patent No. 9,757,333 PRC Patent No. ZL201480067369.2 EP Application No. 14869152.0 HK Application No. 17102963.0 PRC Div Application No. 201910232111.8 HK Application No. 42020002090.7
IPOO486	Core-shell Structured Alginate Capsules for Encapsulation of Particles, Colloids and Cells 用於包裹顆粒、膠體和細胞的核殼結構藻酸鹽膠囊	US Patent No. 9,782,442 PRC Application No. 201480067639.X HK Application No. 17102957.8 US Application No. 15/720,246

IPO0504	Osmotic Drying of All-aqueous Emulsion 全水乳液的滲透乾燥	US Patent No. 9,707,183 PRC Application No. 201580027714.4
IPO0569	New Electroconductive and Anti-bacterial Composite Material for Endodontic Use 用於根管治療的新的導電和抗菌複合材料	PRC Application No. 201680089890.5 EP Application No. 16918132.8 US Application No. 16/339,961
IPO0616	Fabrication of Cavity-microfibers via Microfluidic Method 通過微流體方法製造腔微纖維	PRC Application No. 201680088704.6
IPO0659	Omniphobic Porous Membrane and Methods for Preparing the Same 疏水性多孔膜及其製備方法	US Application No. 16/347,497 PRC Application No. 201680090566.5
IPO0902	Real-time GP Spot Sealing of Root Canals in Endodontics 牙髓治療中根管的實時 GP 點封	US Application No. 16/655,590
IPO0903	A Novel Antibacterial and Mineralizing Coating on Tooth Surfaces for Prevention of Dental Caries 一種用於預防齲齒的新型牙齒表面抗菌礦化塗層	PCT Application No. PCT/CN2020/137637
IPO0975	Multiphoton High-throughput Screening of Multiplex Cell Niche Factors-biochips, Methods and Preparation and Applications 多重細胞生態位因子的多光子高通量篩選 - 生物芯片、方法與製備與應用	PCT Application No. PCT/CN2022/07540
IPO0977	Optical Soft Skin System for Multimodal Sensing 用於多模態傳感的光學軟皮膚系統	PCT Application No. PCT/CN2021/128342
IPO0988	A Novel Biomaterial with High Glycosaminoglycan/Hydroxyproline Ratio, Methods and Applications for Tissue Engineering 一種具有高糖胺聚醣 / 羧脯氨酸比率的新型生物材料，用於組織工程的方法和應用	PCT Application No. PCT/CN2022/071012
IPO1004	Antibacterial and Mineralizing Compositions and Methods of Use Thereof 抗菌和礦化組合物及其使用方法	PCT Application No. PCT/CN2022/072965
IPO1017	Fabrication of Fiber-based Hydrogel Using All-aqueous Formulations 用全水配方製備纖維基水凝膠	PCT Application No. PCT/CN2022/109906
IPO1042	Self-cleaning Pathogen-repellent Coatings 自清潔抗病原體塗層	PCT Application No. PCT/CN2022/093013
IPO1043	pH-responsive Smart Anti-pathogen Coatings that Controlled Repel and Inactivate Viruses and Bacteria 可控制排斥和滅活病毒和細菌的 pH 響應智能抗病原體塗層	US Application No. 17/738,037 CN Application No. 202210491960.7

8. Research Tools 科研工具

HKU offer new tools and methods for scientific research. The technologies include cell models, organoids, modified Cas9, drug screening methods and fluorescent probes for detecting chemical substances, among others.

香港大學有多項發明，為科學研究提供新的工具和方法。這些技術包括細胞模型、類器官、修飾的 Cas9、藥物篩選方法和檢測化學物質的熒光探針等。

Research Methods and Tools 科研方法及工具

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0241	Methods for Nucleic Acid Mapping and Identification of Fine-structural-variations in Nucleic Acids and Utilities 用於核酸作圖和鑒定核酸的精細結構變化的方法以及用途	US Patent No. 7,932,029 PRC Patent No. ZL200780007408.X EP Patent No. 1969146 US Patent No. 8,329,400 UK Patent No. 1969146 Germany Patent No. 1969146 PRC Div Application No. 201610028288.2
IPO0276	Human Catechol-O-methyltransferase (COMT) Assay 人兒茶酚-甲基轉移酶 (COMT) 測定	US Patent No. 8,927,225 PRC Patent No. ZL200980138401.0 EP Patent No. 2328909 Switzerland Patent No. 2328909 Germany Patent No. 2328909 France Patent No. 2328909 UK Patent No. 2328909
IPO0338	A Method for Increasing the Efficiency of Site-specific Gene Conversion (Mutation/Reparation) 一種有效提高基因定點轉換（突變 / 修復）的新方法	PRC Patent No. ZL200310118223.X
IPO0381	Two-way, Portable Riboswitch Mediated Gene Expression Control Device 雙向、可移植的核糖開關介導的基因表達控制裝置	US Patent No. 9,222,093 PRC Patent No. ZL201280032539.4 EP Patent No. 2726608 UK Patent No. 2726608 France Patent No. 2726608 Germany Patent No. 2726608 Switzerland Patent No. 2726608
IPO0595	Identification of Three Novel Thermostable Cellulases from Metagenome Using Sequence-guided Strategy 纖維素酶及其編碼基因、重組載體和應用	PRC Application No. 201610145009.0

IPO0598	New Stapled Helical Peptides and Method of Synthesis 新型釘合螺旋肽及其合成方法	US Patent No. 10,011,631 EP Patent No. 3383421 PRC Patent No. ZL201680080440.X UK Patent No. 3383421 Germany Patent No. 3383421 France Patent No. 3383421 Switzerland Patent No. 3383421
IPO0686	Novel Tissue Clearing Agents for Freshly-fixed or Archived Tissues of Human and Animal Origin 適用於人和動物來源組織的新型組織透明劑	PRC Patent No. ZL201780078857.7 US Patent No. 11,130,931
IPO0778	Establishing Proximal Differentiated Airway Organoids for Studying Biology and Pathology of Human Airway Epithelium 成熟的氣道類器官、其製備方法和用途	EP Application No. 19812157.6 US Application No. 17/059,965 PRC Application No. 201980037552.0
IPO0786	Automatic Microfluidic System for Continuous and Quantitative Collection of Droplets 一種可按需收集精確數量液滴的自動微流體系統	US Application No. 17/251,229 PRC Application No. 201980045464.5 EP Application No. 19834184.4
IPO0798	Identification of Cardiomyocyte Sub-populations Derived from Human Pluripotent Stem Cells 鑑定源自人的多能幹細胞的心肌細胞亞群	US Application No. 16/265,547
IPO0803	An Improved High-throughput Combinatorial Genetic Modification System and Optimized Cas9 Enzyme Variants 一種改進的高通量組合遺傳修飾系統和優化的 Cas9 酶變體	US Application No. 17/278,189 Japan Application No. 2021-515089 EP Application No. 19863047.7 PRC Application No. 201980061793.9 KOR Application No. 10-2021-7011033
IPO0808	Methods for Generation of Functional Innervated Human Colonic Organoids Using Human Pluripotent Stem Cells for Toxicity Test and Drug Screening 利用人多能幹細胞產生的功能性受神經支配的人結腸類器官以用於毒性試驗和藥物篩選	US Application No. 17/425,240
IPO0832	Nucleic Acid Mazzocchio: A Nucleic Acid Nanostructure for Therapeutic, Diagnostic and Analytical Applications 核酸 Mazzocchio：用於治療、診斷和分析應用的核酸納米結構	EP Application No. 20787654.1 US Application No. 17/602,530 PRC Application No. 202080027658.5
IPO0836	Expanded Potential Stem Cells of Mammals 哺乳動物全能幹細胞	EP Application No. 20781782.6 US Application No. 17/435,943 Japan Application No. 2021-558867 PRC Application No. 202080036558.9
IPO0845	A Multi-task Convolutional Deep Neural Network for Variant Calling in Single Molecule Sequencing 用於單分子測序中變異調用的多任務卷積深度神經網絡	US Application No. 16/358,662
IPO0860	Tissue Clearing Agent for Mouse Kidney and Mouse Tumour Tissues 小鼠腎臟和小鼠腫瘤組織的組織透明劑	US Application No. 17/625,665 PRC Application No. 201980097791.5
IPO0901	Engineered Guide RNA Scaffolds and Promoters for Genome Editing and CRISPR Screening 用於基因組編輯和 CRISPR 篩選的 RNA 支架和啟動子	EP Application No. 21788960.9 US Application No. 17/996,165 PRC Application No. TBC
IPO0914	Genetically Encoded YEATS Domain Inhibitor 基因編碼的 YEATS 域抑制劑	PCT Application No. PCT/CN2021/108680
IPO0981	A Transferable Type I-F CRISPR-Cas-based Genome-editing System 一種可轉移的 CRISPR-Cas I-F 型基因組編輯系統	PCT Application No. PCT/CN2021/128715

IPO1045	Methods and Apparatus for Label-free Monitoring Physiological Activities of Living Cells 無標記監測活細胞生理活動的方法和裝置	US Application No. 17/846,056
IPO1092	Methods of Making Alveolar Organoids 製備肺泡類器官的方法	PCT Application No. PCT/CN2022/114792
IPO1096	Application of Metallo-supramolecular Branched Polymer in Cryo-EM Sample Preparation 用於冷凍電鏡樣品製備的新型金屬超分子支化聚合物	PCT Application No. PCT/CN2022/097629
IPO1107	Nano Robotic System for High Throughput Single Cell DNA Sequencing 用於高通量單細胞 DNA 測序的納米機器人系統	US Application No. 17/975,030
IPO1112	Zebrafish Model of Human Acute Myeloid Leukaemia (AML) Carrying FLT3-ITD and IDH2 Mutations FLT3-ITD 和 IDH2 突變的人類急性髓性白血病 (AML) 斑馬魚模型	PCT Application No. PCT/CN2022/124652
IPO1119	Activity-enhanced SaCas9 Variants for Genome Editing 用於基因組編輯的活性增強 SaCas9 變體	US Provisional Application No. 63/268,745
IPO1180	An Expanded Potential Stem Cell Based Platform for Coronavirus Study, Production, Drug Screening and Evaluation 用於冠狀病毒研究、生產、藥物篩選和評估的擴展潛在幹細胞平台	US Provisional Application No.63/402,032
IPO1184	A Method of Derivation of Mesenchymal Stem Cells from Mammalian Pluripotent Stem Cells 從哺乳動物多能幹細胞中誘導間充質幹細胞的方法	PCT Application No. PCT/CN2023/073818
IPO1234	Human Nasal Organoids and Methods of Making and Methods of Use Thereof 人鼻類器官及其製備方法和使用方法	US Provisional Application No. 63/358,795

Probes 熒光探針

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0212	Label-free Optical Sensing and Characterization of Biomolecules by d8 or d10 Metal Complexes 通過 d8 或 d10 金屬絡合物對生物分子的無標記光學檢測及反應分子	US Patent No. 8,057,989 US Patent No. 8,309,304 PRC Patent No. ZL200780001656.3
IPO0382	Diarylamine-based Fluorogenic Probes for Detection of Peroxynitrite 用於檢測過氧亞硝酸鹽的二芳基胺 - 基熒光探針	US Patent No. 9,651,528 EP Patent No. 2809666 PRC Patent No. ZL201380007241.2 EP Div Application No. 18191398.9 Germany Patent No. 2809666
IPO0483	Metal Chelation-based Fluorescent Probes for Protein or Other Biomolecule Labelling in Cells 用於在細胞中標記蛋白或其他生物分子的金屬螯合熒光探針	PRC Patent No. 201580010957.7
IPO0491	Bistriflate-based Fluorogenic Probes for Detection of Superoxide Anion Radical 用於檢測超氧化物的雙三氟甲磺酸酯基熒光探針	US Application No. 14/597,408 EP Application No. 15742817.8 PRC Patent No. 201580006666.0
IPO0554	Diarylether-based Fluorogenic Probes for Detection of Hypochlorous Acid 用於檢測次氯酸的二芳醚基熒光探針	US Application No. 15/135,788
IPO0556	A Method of Using d8 Square Planar Metal Complexes to Target Mismatched DNA 一種使用 d8 方平面金屬配合物靶向錯配 DNA 的方法	US Patent No. 10,378,046 EP Application No. 16813699.2 PRC Application No. 201680048649.8
IPO0638	Ascorbate-selective Triggered Release of Fluorescent Dyes and Other Groups 抗壞血酸特異性觸發釋放的熒光染料和其他組分	US Patent No. 10,018,623
IPO0673	Reagents for Selective and Sensitive Detection of Hydrogen Peroxide 用於檢測過氧化氫的化合物和方法	PRC Application No. 201880011943.0
IPO0791	Fluorescent Turn-on Probes for Detecting Carbapenem Resistant Bacteria 用於檢測碳青霉烯類耐藥菌的熒光開啟探針	US Application No. 17/273,791 PRC Application No. 201980071110.8
IPO0802	A Label-free Luminescence Assay for Detection of Amyloid Fibrillation and Plaque Formation and Their Inhibitor Screening Thereof by d8 or d10 Metal Complexes d8 或 d10 金屬配合物用於檢測澱粉樣蛋白纖維化和斑塊形成及其抑制劑篩選	US Application No. 17/265,756 PRC Application No. 201980065186.X
IPO0875	Colour Tunable Luminescent Bidentate Platinum (II) Complexes for Probing Mismatch DNA 用於探測錯配 DNA 的可調色發光雙齒鉑 (II) 複合物	US Application No. 17/754,018 PRC Application No. TBC
IPO1192	N-Acryloylindole-alkyne (NAIA) for Imaging Thiol Reactivity and Proteome-wide Cysteine Profiling N- 丙烯酰吡啶 - 炔炔 (NAIA) 用於成像硫醇反應性和全蛋白質組半胱氨酸分析	US Provisional Application No. 63/365,391



9. Transgenic Plants and Agriculture 基因改造植物及農業生產

Transgenic plants are plants with genetically modified DNA. They usually possess a new trait that does not naturally occur in the species. Researchers at HKU have developed genetically modified food-crops with characteristics including stress tolerance, disease resistance or increased production, as well as non-food crops that can be used in phytoremediation.

基因改造植物是透過遺傳工程改良 DNA 後的植物。它們通常具有非天然存在於該物種的新特徵。香港大學的研究人員已研發出具有脅迫耐受性、抗疾病能力或高產量的食品作物，以及可應用在植物修復中的非食品作物。

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0250	Methods of Using Transformed Plants Expressing Plant-derived Acyl-Coenzyme-A-binding Proteins in Phytoremediation 在植物修復中使用表達源自植物酰基輔酶 A 結合蛋白的轉化植物的方法	PRC Patent No. ZL200810142835.5 US Patent No. 7,880,053
IPO0297	Method for Speeding Up Plant Growth and Improving Yield by Introducing Phosphatases in Transgenic Plant 在遺傳修飾的植物中使用磷酸酶增強植物生長和產量方法	PRC Patent No. ZL200980151612.8 Brazil Application No. PLO922980-9 India Application No. 4649/CHENP/2011 Australia Patent No. 2009327244 Canada Patent No. 2,746,796 US Patent No. 9,476,058
IPO0312	Applications in Using Acyl-CoA Binding Proteins to Enhance Freezing Tolerance in Transgenic Plants 在遺傳修飾的植物中使用酰基輔酶 A 結合蛋白增強低溫耐受性的方法	US Patent No. 8,378,172
IPO0404	Methods Using Acyl-coenzyme A-binding Proteins to Enhance Drought Tolerance in Genetically Modified Plants 在遺傳修飾的植物中使用酰基輔酶 A 結合蛋白增強乾旱耐受性的方法	EP Patent No. 2773765 PRC Patent No. ZL201280053262.3 UK Patent No. 2773765 Germany Patent No. 2773765 Sweden Patent No. 2773765
IPO0461	Methods of Using 3-hydroxy-3-methylglutaryl-CoA Synthase to Enhance Growth and/or Seed Yield of Genetically Modified Plants 使用 3- 羥基 -3- 甲基戊二酰基 -CoA 合酶提高遺傳修飾植物的生長和 / 或種子產量的方法	PRC Patent No. ZL201480034890.6 EP Application No. 14814381.1
IPO0646	Methods of Using Acyl-coenzyme A-binding Proteins to Enhance Tolerance to Necrotrophic Fungal Pathogens in Genetically Modified Plants 在遺傳修飾的植物中使用酰基輔酶 A 結合蛋白增強對死體營養型真菌病原體耐受性的方法	US Patent No. US 10,968,463
IPO0732	Transgenic Rice Plants Overexpressing ACYL-COA-Binding Protein2 Show Enhanced Grain Size 過表達 ACYL-COA 結合蛋白 2 的轉基因水稻植株顯示增強的粒度	US Application No. 16/768,319

10. Others 其他

Ref. No. 項目編碼	Title of Invention 發明項目名稱	Patent Application Number 相關專利
IPO0877	Fungal Identification by Image Recognition 通過圖像進行真菌識別	US Application No. 16/830,524
IPO0920	DA-BD-LSTM-Dense-UNet for Liver Lesion Segmentation 利用人工智能檢測肝臟病變	PCT Application No. PCT/CN2021/082361
IPO0986	Densenet-based Model for Classification of Hepatocellular Carcinoma 基於 Densenet 的肝細胞癌分類模型	US Application No. 17/692,861 CN Application No. 202210245058.7



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